NSCLC with Del 19 mutation increased quality-adjusted life years (QALY) by 0,354, 0,665 and 0,670 QALY and overall survival by 0,61, 0,99 and 0,95 years in comparison with erlotinib, gefitinib and combination cisplatin/pemetrexed respectively. The total costs of therapy for compared drugs were: afatinib – 1 917 425 rub., erlotinib – 1 544 852 rub., gefitinib – 1 205 353 rub. and cisplatin/pemetrexed – 1 203 865 rub. The ICERs were 1 052 934, 1 067 116 и 1 064 708 rubles in comparison with erlotinib, gefitinib and combination cisplatin/ pemetrexed respectively per QALY. **CONCLUSIONS:** Afatinib was demonstrated to have the highest efficiency in terms of overall survival and QALY. Direct costs associated with afatinib were the highest because of afatinib superior efficiency. Afatinib was shown to be the cost-effective strategy in 1st-line treatment of metastatic NSCLC with Del 19 gene mutation as willingness to pay threshold (1 455 741,77 rubles) was not exceeded.

PCN164

STUDY ON COST-EFFECTIVENESS ANALYSIS FOR MULTIPLE MYELOMA TREATMENT: A SYSTEMATIC REVIEW OF LITERATURE FROM 2004-2014

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OBJECTIVES: Ministry of Health, Labour and Welfare of Japan aims for the introduction of Health Technology Assessment in FY2016. Compared to foreign countries, a lack of resources for conducting the analysis has been pointed out in Japan. However, pharmaceutical and medical device industries are urged to seek practical approaches utilizing best available resources. The objective of this study was to review articles for cost-effectiveness studies of multiple myeloma (MM) and to evaluate analytical approaches that can be applied to Japanese environment. **METHODS:** The literature search was conducted in MEDLINE and JDream III. Inclusion criteria are studies of 1) chemotherapy for MM, 2) cost-effectiveness analysis (CEA), 3) published in the past 10 years. Studies were assessed for the followings: country, model structure and simulation method, time horizon, perspective, source of key parameters, results, and key drivers determined from sensitivity analysis. **RESULTS:** Six studies were reviewed in details. Markov (2 articles) and discrete event simulation (2 articles) models were adopted, and transition probabilities among states were calculated from progress-free survival and overall survival obtained from clinical trials. Costs for chemotherapy were based on literature or expert opinion. Utility scores were assessed along with clinical trials (2 articles) or referred to other studies (3 articles). Inclusion of disutility of adverse events varied among studies. Parameters which became key drivers in those analyses were also different between studies. **CONCLUSIONS:** Data collection methods adopted in prior studies were applicable to CEA for MM treatment in Japan. Cost data can be obtained not only from questionnaire survey to doctors but commercial database. Because evidence on utility scores of Japanese population is still limited, further studies will be needed in Japanese patients.

PCN165

COST EFFECTIVENESS OF CETUXIMAB IN FIRST LINE TREATMENT OF RAS WILD-TYPE METASTATIC COLORECTAL CANCER IN THE UK: A SUMMARY OF ECONOMIC ANALYSES SUBMITTED TO THE NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE (NICE)

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OBJECTIVES: Colorectal cancer is the fourth most common cancer in the UK and the second most common cause of cancer death. NICE recommended the use of cetuximab for KRAS wild type mCRC patients with metastasis confined to the liver. Recent evidence demonstrated that cetuximab results in significant improvements in overall survival in patients with metastatic colorectal cancer (mCRC) expressing unmutated NRAS and KRAS exons (RAS wild type), when added to chemotherapy. To showcase the improved outcomes of cetuximab treatment and its cost effectiveness, a Cost-Utility Analysis was developed for an Health Technology Assessment evidence submission to NICE. **METHODS:** A de Novo Markov model was developed to assess the long term outcomes and cost effectiveness of adding cetuximab to either FOLFOX or FOLFIRI chemotherapy. The state transition model simulates patients' journey through 5 health states: first, second and third line treatments post disease progression, successful surgical resection of liver metastasis with curative intent and death. The time horizon was set to 10 years and a 3.5% discount rate was applied to both outcomes and costs. Cetuximab list price was used in all analyses. Separate analyses were conducted using the licensed weekly cetuximab dose and the fortnightly dose typically used in clinical practice in England and Wales. **RESULTS:** The model estimates that cetuximab addition to FOLFOX adds 0.32 QALYs and 0.29 when added to FOLFIRI. When considering the fortnightly cetuximab dose, the ICER for combining cetuximab with FOLFOX is £46,503 per QALY compared to FOLFOX alone and £55,971 per QALY when combining cetuximab with FOLFIRI compared to FOLFIRI alone. **CONCLUSIONS:** The evidence submission to NICE demonstrated the significant improvements in overall survival (OS) in RAS wild type mCRC patients compared to standard treatments. The cost effectiveness of cetuximab could be deemed favourable especially when considering it as an "End of Life" medicine.

PCN166

SYSTEMATIC REVIEW OF COST EFFECTIVENESS OF GEFITINIB IN THE TREATMENT OF NON-SMALL CELL LUNG CANCER IN CHINA

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OBJECTIVES: Lung cancer is the cancer ranking top one in both incidence and mortality among cancers in China. More than 85% of lung cancer patients suffer from non-small cell lung cancer (NSCLC). As the first epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor marketed in China, gefitinib was recommended as first and second line therapy for advanced NSCLC patients with EGFR mutation by China guideline for treatment of primary lung cancer. This study aims to systematically evaluate cost-effectiveness of geftinib in China. **METHODS:** A systematic review of cost-effectiveness of geftinib in China was conducted. We searched for Chinese literatures in "CNKI", "Wanfang data", and "VIP.com". Search pattern was "gefitinb" AND "cost or economic or expense" in abstract. Publication deadline was May 31th, 2015. Cost analysis (CA), cost-effectiveness analysis (CEA), cost-utility analysis (CUA), and cost-benefit analysis of gefitinib were included. NoteExpress 2.7 was used for literature management. **RESULTS:** We retrieved abstracts of 39, 42 and 20 from CNKI, Wanfang and VIP respectively. Then 59 abstracts were selected to conduct abstract analysis after deleting duplications, followed by 15 selected to full-text analysis. At last, 7 studies were included. For first line treatment comparison, 1 CUA evaluating gefitinib and chemotherapy (paclitaxel+carboplatin) shows geftinib dominates the chemotherapy with an ICER of ¥-13499.7/QALY. For second line comparison, 2 CAs show costs of geftinib are much lower than comparators, 3 CEAs show gefitinib is cost effective compared to erlotinib with much lower cost-effectiveness ratios, and 1 CEA shows docetaxel is dominated by gefitinib, which has much lower costs(¥23022 vs. ¥24390) and higher objective response rate(26.90% vs. 10.30%). **CONCLUSIONS:** Our systematic review demonstrates that Gefitinib is cost effective in both first and second line treatment of NSCLC in a Chinese setting.

PCN167

RESULTS OF A DUTCH COST-EFFECTIVENESS MODEL OF RADIUM-223 IN COMPARISON TO CABAZITAXEL, ABIRATERONE, AND ENZALUTAMIDE IN PATIENTS WITH METASTATIC CASTRATION RESISTANT PROSTATE CANCER PREVIOUSLY TREATED WITH DOCETAXEL

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OBJECTIVES: The treatment landscape of metastatic castration resistant prostate cancer (mCRPC) has changed with the introduction of novel agents. As little is known about their cost-effectiveness, this study investigates the cost-effectiveness of radium-223 versus cabazitaxel, abiraterone and enzalutamide in Dutch mCRPC patients previously treated with docetaxel. **METHODS:** A cost-effectiveness analysis was conducted utilizing efficacy, symptomatic skeletal event (SSE) and safety data obtained from indirect treatment comparisons. As SSE data are unavailable for cabazitaxel, we conservatively assumed these to be identical to radium-223. A Markov model combined these clinical inputs with Dutch-specific resource use and costs for mCRPC treatment. Total quality-adjusted-life-years (QALYs) and costs were calculated over a 5-year horizon. Analyses were performed from a societal perspective. **RESULTS:** Radium-223 is associated with €4,535 and €5,905 lower lifetime costs and a difference of -0.004 and 0.02 QALYs compared to cabazitaxel and abiraterone, respectively. Sensitivity analyses reveal a 59% (78%) chance of radium-223 being cost-effective compared to cabazitaxel (abiraterone) at a €80,000 willingness to pay (WTP) threshold, the informal Dutch threshold. Compared to enzalutamide, radium-223 is associated with a slightly lower QALY gain (-0.06) and €7,255 lower lifetime costs, resulting in only a 19% chance of enzalutamide being cost-effective compared to radium-223 at a €80,000 WTP threshold. Sensitivity analyses reveal a 74%, 80% and 78% chance of radium-223 being cost-saving compared to cabazitaxel, abiraterone and enzalutamide, respectively.Radium-223's lower lifetime costs compared to abiraterone and enzalutamide are driven by less drug costs and prevention of expensive SSE's. Compared to cabazitaxel, radium-223's savings are driven by fewer costs of the drug, administration and adverse event treatment. **CONCLUSIONS:** Our model shows that while QALY gains are in the same ballpark (a maximum absolute difference of 0.06 QALY), radium-223 is a cost-saving treatment compared to cabazitaxel, abiraterone and enzalutamide in Dutch mCRPC patients previously treated with docetaxel.

PCN168

ECONOMIC EVALUATION OF PEGFILGRASTIM AS PROPHYLAXIS FOR FEBRILE NEUTROPENIA IN PATIENTS WITH SOLID TUMORS OR LYMPHOMA RECEIVING CHEMOTHERAPY IN MEXICO

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OBJECTIVES: Febrile neutropenia (FN) is a common side effect of systemic chemotherapy associated with significant morbidity, mortality, detrimental quality of life and high costs. Most FN events occur in the first cycle. Guidelines recommend the prophylactic use of a recombinant human granulocyte colony-stimulating factor (G-CSF) in patients receiving chemotherapy if risk of FN ≥20%. We aimed to assess the cost-effectiveness of different G-CSF primary prophylactic regimens in Mexico. **METHODS:** A decision model allowed comparison of expected costs and outcomes after three competing interventions as prophylaxis: Pegfilgrastim 6mg once (PegFGT); filgrastim 300μg daily during 6 days (FGT-6d) or 3 days (FGT-3d). Time-horizon was 21 days (i.e., first cycle). Direct medical costs comprising acquisition of G-CSF plus ambulatory/inpatient medical care derived from FN were analyzed under the perspective of Mexican public health system and expressed in 2015 dollars (USD). Clinical outcomes included frequency of FN events and deaths attributable to FN. Published literature and indirect treatment comparisons were used for estimating the effectiveness for each intervention. Costs parameters were based on local sources. Deterministic and probabilistic sensitivity analyses were conducted. **RESULTS:** PegFGT was the least costly strategy (USD$1,473) leading to overall savings of USD$103 (6.6%) and USD$327 (18.2%) when compared to FGT-6d and FGT-3d, respectively. The expected number of FN events and deaths caused by FN were also lower with PegFGT (99; 11) than with FGT-6d (241; 26) or FGT-3d (285; 31), leading to a lower cost of treatment. Based on the cost-effectiveness results, PegFGT was the least costly option in around 89% of the simulations generated through probabilistic sensitivity analysis. **CONCLUSIONS:** A single dose of pegfilgrastim given instead of administering daily doses of filgrastim for 3 or 6 days leads to better